

CLAIMS

What is claimed is:

1. A method for serving applications comprising the steps of:
receiving at least one component status publication, each said component status publication specifying a usage level for an application component;
acquiring a client request;
selecting a server response for said client request from among a plurality of possible server responses based at least in part upon said component status publications, wherein each possible server response differentially utilizes application components; and,
responding to said client request with said selected server response.
2. The method of claim 1, further comprising the step of registering each of said application components with a centralized location that publishes said component status publications.
3. The method of claim 1, wherein said application components comprise local components and external components, said method further comprising the steps of:
determining that a server response can be provided using either one of said external components or one of said local components;
comparing a usage level of said external component with a predetermined usage threshold value; and,
if said usage threshold value is exceeded, using said local component to provide said server response, otherwise using said external component to provide said server response.
4. The method of claim 1, further comprising the step of transmitting component usage messages from said application components to a centralized location that publishes said component status publication.

5. The method of claim 4, further comprising the steps of:
specifying within said centralized location a usage message format; and,
formatting said component usage messages in accordance with said
usage message format.
6. The method of claim 5, said method further comprising the steps of:
conveying said client request and said at least one component status
publication to a control layer of said application server;
calling from within said control layer a data method contained within an
application layer of said application server; and,
activating at least one of said application components responsive to said
calling step.
7. The method of claim 1, said selecting step further comprising the steps of:
identifying said plurality of server responses for said client requests;
for each of said server responses, determining a required utilization for
each application component that generates said server response;
comparing said required utilizations with available application component
capacity, wherein said available application component capacity is determined at
least in part from said component status publications; and,
selecting said server response based at least in part upon said comparing
step.
8. The method of claim 3, said method further comprising the steps of:
determining an overload condition based upon at least one of said
component usage messages; and,
responsive to said overload condition, adjusting said application server
from a steady-state to an overload-state.
9. The method of claim 8, said method further comprising the step of:

if said application server is in said overload-state, limiting usage of said application components which triggered said overload condition.

10. The method of claim 8, said method further comprising the steps of:
determining an end of said overload condition based upon said component usage messages; and,
adjusting said application server from said overload-state to said steady-state.
11. An autonomic system for serving applications comprising:
an application server configured to receive client requests and selectively provide server responses to said client requests; and
a status hub configured to receive component usage messages from at least one communicatively linked application component and responsively publish at least one component status publication to at least one communicatively linked application server, wherein each of said component status publications specifies a usage level for an associated one of said application components.
12. The system of claim 11, wherein one of said usage levels indicates an overload state.
13. The system of claim 11, further comprising:
an application component monitor configured to transmit component usage messages for an associated application component.
14. The system of claim 11, wherein said application server is a multilayered application server configured to differentially provide said server responses to said client requests based at least in part upon said component status publications.

15. The system of claim 14, wherein said multilayered application server comprises:

an application layer containing a plurality of data methods, wherein at least a portion of said data methods utilize said application components.

16. The system of claim 14, wherein said multilayered application server further comprises:

a interface layer configured generate and format at least one electronic document containing said server response.

17. The system of claim 14, wherein said multilayered application server further comprises:

a control layer configured to orchestrate behavior of at least one of an application layer and an interface layer based on said component status publications.

18. A system for serving applications comprising the steps of:

means for receiving a component status publication, said component status publication specifying a usage level for an application component;

means for acquiring a client request;

means for selecting a server response for said client request from among a plurality of possible server responses based at least in part upon said component status publication, wherein each possible server response differentially utilizes application components; and,

means for responding to said client request with said selected server response.

19. A machine-readable storage having stored thereon, a computer program having a plurality of code sections, said code sections executable by a machine for causing the machine to perform the steps of:

receiving a component status publication, said component status publication specifying a usage level for an application component;

acquiring a client request;
selecting a server response for said client request from among a plurality of possible server responses based at least in part upon said component status publication, wherein each possible server response differentially utilizes application components; and,
responding to said client request with said selected server response.

20. The machine-readable storage of claim 19, further comprising the step of registering each of said application components with a centralized location that publishes said component status publications.

21. The machine-readable storage of claim 19, wherein said application components comprise local components and external components, said machine-readable storage further comprising the steps of:

determining that a server response can be provided using either one of said external components or one of said local components;

comparing an usage level of said external component with a predetermined usage threshold value; and,

if said usage threshold value is exceeded, using said local component to provide said server response, otherwise using said external component to provide said server response.

22. The machine-readable storage of claim 19, further comprising the step of transmitting component usage messages from said application components to a centralized location that publishes said component status publication.

23. The machine-readable storage of claim 19, wherein said acquiring step further comprising the step of conveying said client request from a client browser through a proxy server to an application server.

24. The machine-readable storage of claim 23, said method further comprising the steps of:

- conveying said client request and said at least one component status publication to a control layer of said application server;
- calling from within said control layer a data method contained within a data object layer of said application server; and,
- activating at least one of said application components responsive to said calling step.

25. The machine-readable storage of claim 19, said selecting step further comprising the steps of:

- identifying said plurality of server responses for said client requests;
- for each of said server responses, determining a required utilization for each application component that generates said server response;
- comparing said required utilizations with available application component capacity, wherein said available application component capacity is determined at least in part from said component status publications; and,
- selecting said server response based at least in part upon said comparing step.

26. The machine-readable storage of claim 21, said method further comprising the steps of:

- determining an overload condition based upon at least one of said component usage messages; and,
- responsive to said overload condition, adjusting said application server from a steady-state to an overload-state.

27. The machine-readable storage of claim 26, said method further comprising the step of:

- if said application server is in said overload-state, limiting usage of said application components which triggered said overload condition.

28. The machine-readable storage of claim 26, said method further comprising the steps of:

determining an end of said overload condition based upon said component usage messages; and,

adjusting said application server from said overload-state to said steady-state.